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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/664,332	09/18/2000	Noriya Hayashi	001195	4422

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EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 04/24/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/664,332

Applicant(s)

HAYASHI, NORIYA

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

4/24/02

#9

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,8,14,17-19,21 and 23-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,10-13,15,16,20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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Claims 4, 5, 9, 14, 17-19, 21 and 23-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to non-elected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Sun Aid SI-80L (page 66, lines 19-20; page 75, line 18 and page 77, line 6), Sun Aid SI-60 (page 67, line 12; page 72, line 6; page 76, line 5 and page 77, line 20) and Sun Aid SI-60L (page 67, line 23; page 70, line 23 and page 76, lines 18-19) is not properly designated as Sanaid SI-80L, Sanaid SI-60 and Sanaid SI-60L, respectively, according to Ohnishi (col. 4, lines 44-45) and Hiwara et al. (col. 14, lines 62-63).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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There is no antecedent basis in claim 3 for the curing accelerator component in line 3.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6-8, 13, 15 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Green Patent No. 4,252,592.

Green discloses a composition comprising the elected species of 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate (col. 4, lines 1-2), a polycarboxylic acid anhydride (col. 4, line 17) and an aromatic sulphonium salt photopolymerization catalyst (col. 5, lines 49, 51 and 52).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-8, 10-13, 15, 16, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamazu et al., Buchwalter et al., Ohnishi, Starkey and Green (et al.) Patent Nos. 4,299,938 and 4,252,592.

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Hamazu et al. sets forth a formulation containing 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate (col. 4, lines 15-16), the elected species of benzyl-4-hydroxyphenylmethylsulfonium hexafluoroantimonate (col. 3, lines 29-30) and an acid anhydride (col. 5, line 14).

Buchwalter et al. espouses a blend of a cycloaliphatic diepoxide (col. 3, lines 7-11), a sulfonium salt photoinitiator (col. 3, line 22), the elected species of maleic anhydride (col. 6, lines 64-65) and the elected species of a polyethylene glycol flexibilizer (col. 7, lines 6, 7 and 12).

Ohnishi discloses a mixture prepared from 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate (col. 2, lines 41-42), benzyl-4-hydroxyphenylmethyl sulfonium hexafluoroantimonate (i.e. Sanaid SI-80L described on page 66, lines 19-20 of the specification) and a curing agent (col. 5, line 16).

Starkey is directed to a composition obtained from 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate (col. 4, lines 16-17), an aromatic sulfonium salt of halogen-containing complex ions as a photoinitiator (col. 12, lines 35-36), maleic anhydride (col. 20, lines 38-39) and polyethylene glycol (col. 7, line 31) "to adjust molecular weight of the prepolymers and provide the desired amount of crosslinking in the balancing compound (col. 3, lines 32-35).

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Green et al. '938 discloses a formulation composed of 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate (col. 7, lines 54-55), an aryloxysulfoxonium salt photoinitiator (col. 4, line 55 to col. 5, line 12), a polycarboxylic acid anhydride (col. 12, lines 18-19) and a polyethylene glycol co-curing agent (col. 8, lines 13-14).

Green '592 is described hereinabove.

The claimed curing agent capable of curing the photopolymerizable resin (i.e. the cycloaliphatic diepoxide) without irradiation by an energy ray is disclosed but not exemplified. It would have been obvious to cure the cycloaliphatic diepoxide compositions of the references in the presence of the acid anhydride such as the maleic anhydride of Buchwalter et al. and Starkey in order to ensure a complete cure throughout the thickness of the composition.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hiwara et al. and PCT Publication No. WO 99/20674 (equivalent to European Patent No. 945,475 but with an earlier publication date of April 28, 1999) are drawn to the claimed composition without the non-radiation curing agent.

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Monday to Friday, 9:30 to 6:00

RS 4/18/02



ROBERT E.L. SELLERS
PRIMARY EXAMINER